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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,659	03/17/2004	Yoshiyuki Takase	25-280	3284

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Arnold International
P.O. BOX 129
Great Falls, VA 22066

EXAMINER

KHATRI, PRANAV V

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,659

Applicant(s)

TAKASE, YOSHIYUKI

Examiner

Pranav V. Khatri

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/17/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Rauch (European Patent EP 0 973 055 A2).

Regarding claim 1, Rauch discloses mirror and mirror holder comprising: a mirror (see Rauch Fig 3 numeral 102) having a longitudinal direction (Col 3 Line 29 and horizontal ends 110) and a width direction (from 102 to 108) perpendicular to the longitudinal direction that define a plane perpendicular to a normal to the reflecting surface (front of 102) of the mirror (102), having a first surface extending in the longitudinal direction (102) and perpendicular to the width direction (126), and having end portions at opposite ends (126 and 124) in the longitudinal direction (Col 3 Line 29 and horizontal ends 110); a mirror holder (100) for supporting said mirror (102) and protecting the mirror on the top (Col 3 Lines 32-33 Numeral 116 and 118), bottom (120 and 122) and back sides (104 and Col 4 Lines 13-16) as well as on both ends (Col 4 Lines 4-8); a force dispersion plate (116 and 118) contained in the mirror holder (100) that includes a surface arranged adjacent the upper edge (124) of said mirror (102) at a

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central portion (CP) of said mirror (102) in the longitudinal direction (Col 3 Line 29 and horizontal ends 110) of said mirror; and an adjustment device (106) in the mirror holder (100) for pressing (Col 3 Lines 37-46) said surface of the force dispersion plate (116 and 118) against the upper edge (126) of the mirror (102) so that the central portion (CP) of said mirror (102) flexes (Col 3 Lines 29-32 and Col 5 Lines 15-16) in the width direction (from 102 to 108) relative to end portions of the mirror (102) held in the mirror holder (102).

Regarding claim 2, Rauch discloses wherein said mirror (102) is a cylindrical mirror (Col 3 Line 3) with its greater length extending in the longitudinal direction (Col 3 Line 29 and horizontal ends 110).

Regarding claim 3, Rauch discloses further comprising projections (Fig 3 Numeral 120 and 122) of the mirror holder (100), which support the bottom of the mirror (102) near both ends (Fig 4 Numeral 120 and 122) of the mirror (102) in the longitudinal direction (Col 3 Line 29 and horizontal ends 110); and said adjustment device (106) is installed in the central section (Fig 4 Numeral 106) of the longitudinal direction (Col 3 Line 29 and horizontal ends 110) of the mirror holder (100), and presses against the top edge of the mirror (102).

Regarding claim 4, Rauch discloses wherein said mirror (102) is a cylindrical mirror (Col 3 Line 3) with its greater length (Fig 4) extending in the longitudinal direction (Col 3 Line 29 and horizontal ends 110).

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fisli (US Patent No. 5,543,829).

Regarding claim 1, Fisli discloses a mirror and mirror holder comprising: a mirror (see Fisli Fig 3 Numeral 22) having a longitudinal direction (Fig 4A from Numeral 32 to opposite 32) and a width direction (Fig 3 from 23 to 25) perpendicular to the longitudinal direction that define a plane perpendicular to a normal to the reflecting surface (23) of the mirror (22), having a first surface (23) extending in the longitudinal direction (Fig 4A from Numeral 32 to opposite 32 and Col 3 Lines 59-62) and perpendicular to the width direction (Fig 3 from 23 to 25), and having end portions at opposite ends in the longitudinal direction (Fig 4A from Numeral 32 to opposite 32 and Col 3 Lines 59-62); a mirror holder (Fig3 Numeral 50) for supporting said mirror (22) and protecting the mirror on the top, bottom and back sides as well as on both ends (Col 4 Lines 3-4 and Lines 16-20); a force dispersion plate (Fig 3 Numeral 40) contained in the mirror holder (50) that includes a surface arranged adjacent the upper edge of said mirror (Fig 3 Numeral 22) at a central portion (Fig 3 CP) of said mirror (22) in the longitudinal direction (Fig 4A from Numeral 32 to opposite 32) of said mirror (22); and an adjustment device (see Col 3 Lines 59-64 Fig 3 Numeral 50 and 40) in the mirror holder (50) for pressing said surface of the force dispersion plate (40) against the upper edge of the mirror (22) so that the central portion (CP) of said mirror flexes (Col 3 Lines 12-20) in the width direction (see Col 3 Lines 22-22) relative to end portions of the mirror (Col 3 Lines 59-62) held in the mirror holder (50).

Regarding claim 5, wherein said force dispersion plate (Fig 3 Numeral 40) is L-shaped (40) with one leg of the L-shaped plate (one leg of 40 on top surface of mirror 22) providing said surface of the force dispersion plate (40) and the other leg of the L-shaped plate engaging a hole (46) formed in said mirror holder (50) for maintaining the position of the L-shaped plate (one leg of 40 on top surface of mirror 22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rauch (European Patent EP 0 973 055 A2) in view of Matsui et al. (US Patent No. 6,421,157).

Regarding claims 6-9, Rauch discloses of said adjustment device (see Rauch Fig 3 Numeral 100) flexes (Col 3 Lines 29-32 and Col 5 Lines 15-16) the central portion (CP) of said mirror (102) in order to reduce or eliminate bow in the scanning line (see Col 5 Lines 31-38) on said object due to said light beam being incident on said deflection device in an oblique direction. Rauch lacks the teaching of a light scanning device, said light scanning device comprising: a light source that produces a light beam; and a deflection device on which said light beam is incident in an oblique direction and

that sequentially deflects the light beam in different directions in order to form a scanning line; wherein said mirror reflects light deflected from the deflection device so as to form a scanning line on an object.

However, Matsui et al. discloses said light scanning device comprising (see Matsui et al Fig 3): a light source that produces a light beam (Fig 3 Numeral 1A); and a deflection device (35) on which said light beam is incident (35A) in an oblique direction (towards main scanning direction and sub-scanning direction) and that sequentially deflects the light beam in different directions (main scanning direction and sub-scanning direction) in order to form a scanning line; wherein said mirror (90) reflects light deflected from the deflection (35) device so as to form a scanning line on an object (main scanning direction and sub-scanning direction).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Rauch scanline bow adjustment mirror incorporated with a optical scanning unit of Matsui et al. for the purpose that scanline bow can be corrected or eliminated by introducing a compensating scanline bow within the mirror of a light scanning device.

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Fisli (US Patent No. 5,543,829) in view of Matsui et al. (US Patent No. 6,421,157).

Regarding claim 10, Fisli discloses of said adjustment device (see Fisli Col 3 Lines 59-64 Fig 3 Numeral 50 and 40) flexes (Col 3 Lines 12-20) the central portion (CP) of said mirror (22) in order to reduce or eliminate bow in the scanning line (Col 3 Lines 13-15) on said object due to said light beam being incident on said deflection

device in an oblique direction. Fisli lacks the teaching of a light scanning device, said light scanning device comprising: a light source that produces a light beam; and a deflection device on which said light beam is incident in an oblique direction and that sequentially deflects the light beam in different directions in order to form a scanning line; wherein said mirror reflects light deflected from the deflection device so as to form a scanning line on an object.

However, Matsui et al. discloses said light scanning device comprising (see Matsui et al Fig 3): a light source that produces a light beam (Fig 3 Numeral 1A); and a deflection device (35) on which said light beam is incident (35A) in an oblique direction (towards main scanning direction and sub-scanning direction) and that sequentially deflects the light beam in different directions (main scanning direction and sub-scanning direction) in order to form a scanning line; wherein said mirror (90) reflects light deflected from the deflection (35) device so as to form a scanning line on an object (main scanning direction and sub-scanning direction).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Fisli scanline bow adjustment mirror incorporated with a optical scanning unit of Matsui et al. for the purpose that scanline bow can be corrected or eliminated by introducing a compensating scanline bow within the mirror of a light scanning device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav V. Khatri whose telephone number is 571-272-8311. The examiner can normally be reached on M-F, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pranav Khatri
Examiner
Art Unit 2872

PK



DREW A. DUNN
SUPERVISORY PATENT EXAMINER